

# NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION

## LAKE TROPHIC DATA

### MORPHOMETRIC:

LAKE <u>Oliverian Brook Pond</u>	LAKE AREA (HA) <u>9.63</u>
TOWN <u>Benton</u>	MAXIMUM DEPTH (M) <u>3.9</u>
COUNTY <u>Grafton</u>	MEAN DEPTH (M) <u>2.2</u>
RIVER BASIN <u>Connecticut</u>	VOLUME (M <sup>3</sup> ) <u>206,500</u>
LATITUDE <u>44°00'N</u>	MUD SURFACE AREA (HA) <u>9.64</u>
LONGITUDE <u>71°56'W</u>	RELATIVE DEPTH <u>1.1</u>
ELEVATION (FT) <u>850</u>	SHORE CONFIGURATION <u></u>
SHORE LENGTH (M) <u></u>	AREAL WATER LOAD (M/YR) <u>138.64</u>
WATERSHED AREA (HA) <u>1878.0</u>	FLUSHING RATE (YR <sup>-1</sup> ) <u>64.6</u>
% WATERSHED PONDED <u>0</u>	PHOSPHORUS RETENTION COEFF. <u>0.15</u>

### BIOLOGICAL:

DATE	11 FEB 1982	26 JUL 1982
DOM. PHYTOPLANKTON (% total) <sup>1</sup>	Sparse - no dominant	Melosira (65%)
<sup>2</sup>		Synedra (30%)
NUMBER OF ALGAL GENERA	3	5
TOTAL ALGAL COUNTS (cells/ml)		
CHLOROPHYLL <u>a</u> (µg/L)		37.62
DOM. ZOOPLANKTON (% total) <sup>1</sup>	Sparse - no dominant	Nauplius larvae (30%)
<sup>2</sup>		Cyclopoid copepod (25%)
ROTIFERS/LITER		209
MICROCRUSTACEA/LITER		341
TOTAL ZOOPLANK. CNTS (cells/L)		572
VASCULAR PLANT ABUNDANCE		Scattered
DOMINANT VASCULAR PLANTS <sup>1</sup>		Dulichium
<sup>2</sup>		
<sup>3</sup>		
SECCHI DISK TRANSPARENCY (M)		0.8
BOTTOM DISS. OXYGEN (mg/L)	10.5	0.5
SEDIMENT: % ORGANIC MATTER	14.0	

LAKE TYPE: An artificial pond.

SUMMER THERMAL STRATIFICATION: YES      NO      WEAK X

IF YES, VOLUME OF HYPOLIMNION                      (m<sup>3</sup>) THERMOCLINE DEPTH            (m)

CHEMICAL: (mg/L unless indicated otherwise) LAKE: Oliverian Brook Pond

	WINTER		SUMMER		
DATE DATE	11 FEB 1982		26 JUL 1982		
DEPTH (M)	1.0	2.0	1.0	3.0	
pH (UNITS)	6.4	6.4	7.1	6.7	
ALKALINITY	7.7	6.6	9.4	10.4	
TOTAL KJELDAHL NITROGEN	0.25	0.26	1.29	0.64	
NITRITE+NITRATE NITROGEN	0.34	0.34	< 0.05	< 0.05	
DISSOLVED ORTHOPHOSPHATE	<0.001	< 0.001	0.002	0.005	
TOTAL PHOSPHORUS	0.008	0.009	0.031	0.041	
SPEC. CONDUCT. ( $\mu$ Mhos/cm)			55.9	58.0	
APPARENT COLOR (UNITS)			65	55	
TURBIDITY (NTU)			8.0	10.1	
MAGNESIUM			0.77		
CALCIUM			3.4		
SODIUM			5		
POTASSIUM			0.8		
CHLORIDE			7	8	
TN : TP	74	67	42	16	
INORG-N : INORG-P					
[Mg+Ca] : [Na+K]			0.72		
CALCITE SATURATION INDEX			2.7		

\* = NOT DEFENSIBLE

NR = NO RESULT

TROPHIC CLASSIFICATION: 1982

CLASSIFICATION POINTS:

D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.
-	4	1	5	10	EUTRO.

COMMENTS:

1. Although there was less than a 4°C. temperature difference between the top and bottom waters in the summer, a bottom dissolved oxygen deficit did occur.
2. This shallow, man-made impoundment was constructed by the Soil Conservation Service; it is located in the White Mountain National Forest, and is a designated recreational area.
3. A good cement boat ramp was present.
4. A diatom bloom was present during the summer sampling.

# FIELD DATA SHEET

WATER BODY Oliverian Brook Pond

TOWN Benton

BY WSPCC

DATE COLLECTED 26 JULY 1982

WEATHER Sunny & windy

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
Deep Spot	0.0	22.7	10.4	121%			
	1.0	22.2	10.5				
	2.0	20.8	6.8				
	3.0	20.0	4.2				
	3.5	19.0	0.5	5%			

SECCHI DISK (M) 0.8

COMMENTS:

BOTTOM DEPTH (M) 3.6

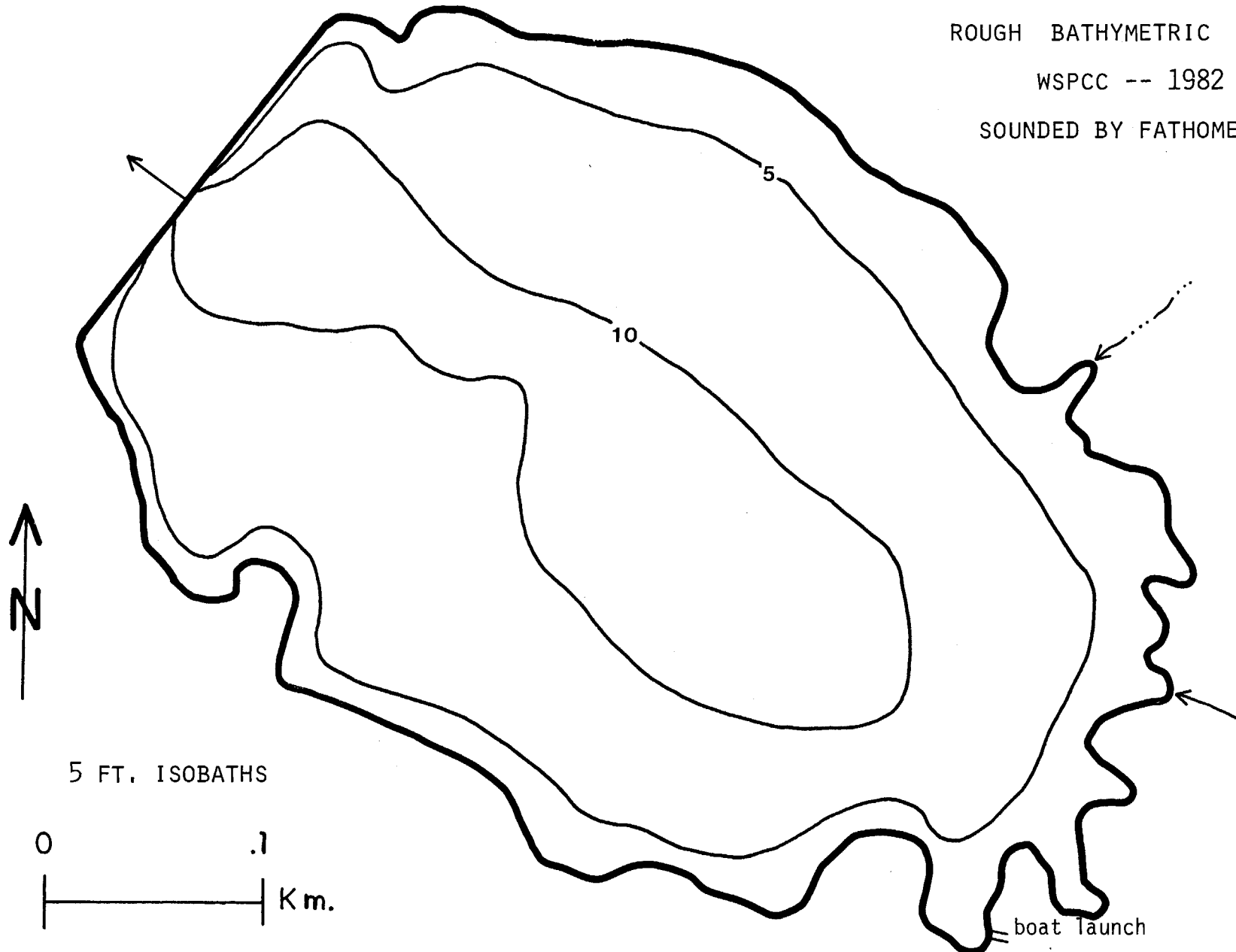
TIME 1230

\* Dissolved oxygen values in mg/L

ROUGH BATHYMETRIC CHART

WSPCC -- 1982

SOUNDED BY FATHOMETER



5 FT. ISOBATHS

0 .1 Km.

OLIVERIAN BROOK POND

BENTON

## AQUATIC PLANT SURVEY

LAKE0liverian Bk. Pond TOWN Benton DATE 26 JULY 1982 BY WSPCC

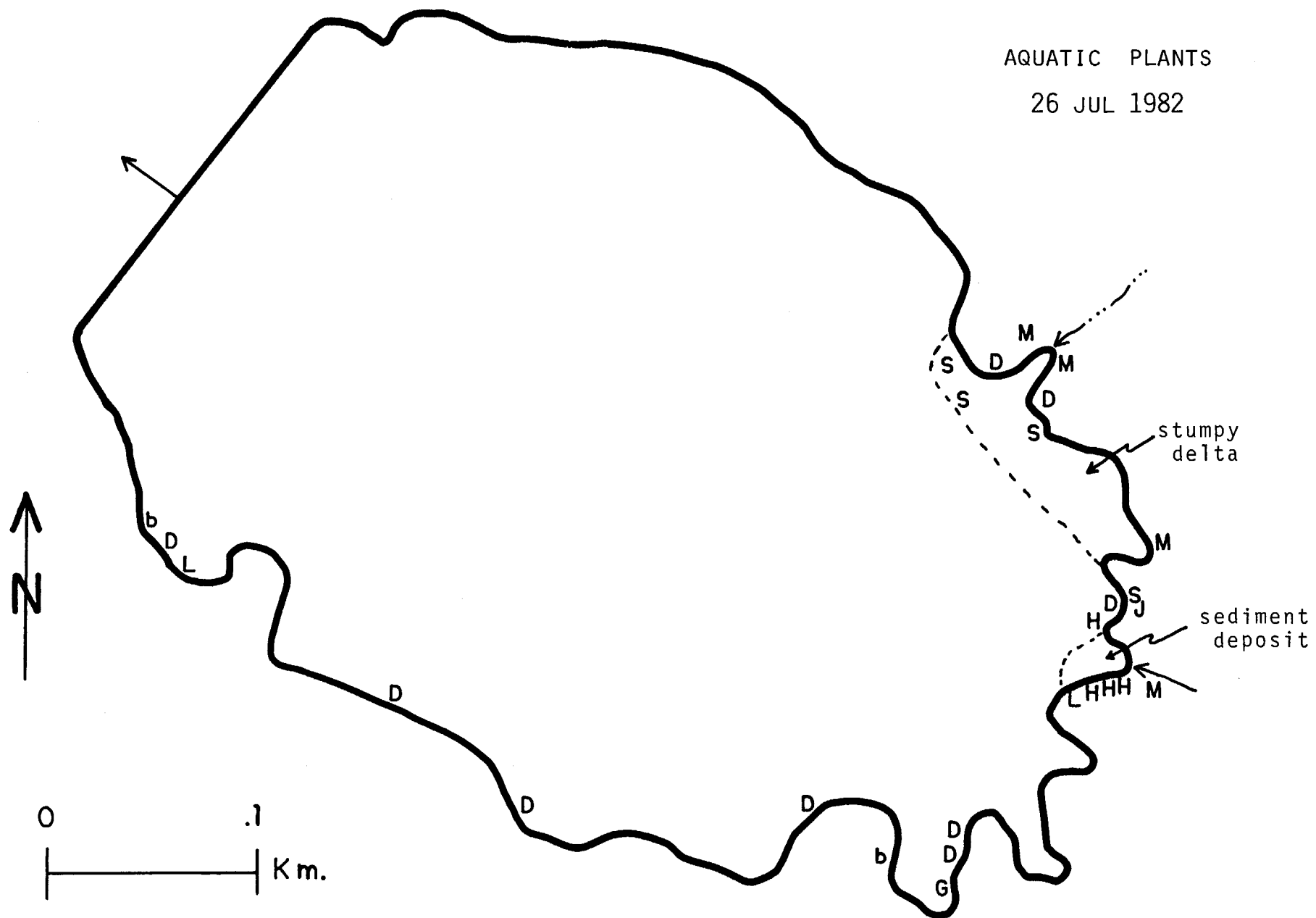
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	OVERALL ABUNDANCE	<u>Scattered</u>
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GENERAL OBSERVATIONS:

1. Plants were common along the eastern shore but sparse elsewhere, for an overall rating of scattered.

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# OLIVERIAN BROOK POND

BENTON